Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

General

Guideline Title

Occupational therapy practice guidelines for adults with arthritis and other rheumatic conditions.

Bibliographic Source(s)

Poole JL, Siegel P, Tencza MJ. Occupational therapy practice guidelines for adults with arthritis and other rheumatic conditions. Bethesda (MD): American Occupational Therapy Association, Inc. (AOTA); 2017. 46 p. [280 references]

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

NEATS Assessment

National Guideline Clearinghouse (NGC) has assessed this guideline's adherence to standards of trustworthiness, derived from the Institute of Medicine's report Clinical Practice Guidelines We Can Trust.

= Poor = Fair = Good = Very Good = Excellent

Assessment	Standard of Trustworthiness
YES	Disclosure of Guideline Funding Source
	Disclosure and Management of Financial Conflict of Interests
	Guideline Development Group Composition
UNKNOWN	Multidisciplinary Group
YES	Methodologist Involvement

	Patient and Public Perspectives
	Use of a Systematic Review of Evidence
	Search Strategy
	Study Selection
	Synthesis of Evidence
	Evidence Foundations for and Rating Strength of Recommendations
	Grading the Quality or Strength of Evidence
	Benefits and Harms of Recommendations
	Evidence Summary Supporting Recommendations
	Rating the Strength of Recommendations
	Specific and Unambiguous Articulation of Recommendations
	External Review
	Updating

Recommendations

Major Recommendations

Note from the National Guideline Clearinghouse: In addition to the evidence-based recommendations below, the guideline includes extensive information on the evaluation process and intervention strategies for adults with arthritis and other rheumatic conditions.

Definitions for the strength of recommendations (A–D, I) and levels of evidence (I–V) are provided at the end of the "Major Recommendations" field.

Recommendations for Occupational Therapy Interventions for People With Arthritis and Other Rheumatic Conditions

Rheumatoid Arthritis (RA)

Physical activity (e.g., aerobic, aquatic, and resistive exercise) to improve function, pain, fatigue, depression, self-efficacy, and disease symptoms (A)
General patient education programs to improve knowledge about RA and to enhance knowledge and adherence to treatment protocols (A)
Educational information (e.g., disease process, symptom management, skills for communication with health care providers), in combination with multidisciplinary rehabilitation, to increase self-efficacy (A)
Cognitive-behavioral therapy (CBT) to address anxiety, depression, and self-efficacy, with results lasting through long-term follow up (up to 18 months) (A)

A tailored, comprehensive (multi-intervention) occupational therapy program to improve function, work productivity, pain, coping, and number of tender joints for long-term (>6 month) improvement (B)
Joint protection and patient education will improve function, pain, stiffness, and self-efficacy (B)
Yoga to improve pain and function even with long-term follow up (B)
Group education, self-management, and exercise to improve function, self-efficacy, and pain (B)
Patient and spouse CBT intervention to improve communication between the patient and spouse with long-term follow up (6 months) (B)
Education and self-management interventions to manage fatigue (C)
Adaptive eye-drop device to improve the ability to squeeze drops from the bottle, aim drops, and control the number of drops and prevent any negative side effects resulting from touching the eye with the eye drop bottle (C)
Tai Chi to provide enjoyment and high physical activity participation rate for people with RA (C)

Osteoarthritis

Education and arthritis self-management programs (ASMPs) to improve occupational performance and quality of life (QOL) and reduce depressive symptoms and pain (A)
Audiotaped guided imagery to reduce pain and increase mobility and QOL (A)
Behavioral interventions (education, activity diaries, tailored activity programs, group sessions) to improve taking part in physical activity, reducing pain, and satisfaction with physical function (A)
Physical activity (e.g., aquatic, aerobic, resistive) to improve QOL and occupational performance (B)
CBT to reduce pain and insomnia (B)
Comprehensive home-based occupational therapy, with the majority of time devoted to occupational performance vs. preparatory activity, to improve activities of daily living (ADL) performance (B)
Tai Chi to improve functional ability, stiffness, and fear of falling (B)
Couples-oriented interventions to provide better outcomes (psychological function, pain coping, self-efficacy and spousal support) than interventions for individuals (B)
Upper limb interval resistive exercise to improve occupational performance post–hip arthroplasty (C)
Yoga to improve functional ability and decrease insomnia (C)
Physical activity (aquatic, land based, Tai Chi) to reduce pain (I)

Fibromyalgia (FM)

Multidisciplinary and multicomponent interventions (e.g., combination of exercise and psychological) to improve function, pain, and depressive symptoms (A)
Aquatic exercise to reduce pain and stiffness and to improve self-reported physical function (A)
Mindfulness-based stress reduction and guided imagery interventions to reduce pain and improve function (A)
Combining aerobic and strengthening exercises to reduce pain (B)
CBT to reduce pain and depression and improve function and mood (B)
Tai Chi, yoga, and Pilates (8–12 weeks) to reduce pain and improve function (B)
Written emotional disclosure intervention combined with awareness exercises and group educational sessions to reduce pain and fatigue and improve mood (C)
Self-management intervention, by itself, does not improve symptoms or function for people with FM (D)

Systemic Lupus Erythematosus

CBT (10-week sessions) to reduce depression, anxiety, and perceived stress and improve QOL, social function, and role function (A)
CBT combined with biofeedback to reduce pain and stress and increase self-efficacy even with long-term follow up (>9 months) (B)
Physical activity (supervised aerobic, range of motion, strengthening, tailored home programs) to reduce depression and fatigue and improve exercise tolerance and function (B)
Psychoeducational interventions (group sessions, couples sessions, strategy training) to reduce

fatigue and improve coping skills, social support, and couples' communication (B)

Definitions

Levels of Evidence for Occupational Therapy Outcomes Research

Levels of Evidence	Definition
Level I	Systematic reviews, meta-analyses, and randomized, controlled trials
Level II	Two groups, nonrandomized studies (e.g., cohort, case control)
Level III	One group, nonrandomized (e.g., before-after, pretest and posttest)
Level IV	Descriptive studies that include analysis of outcomes (e.g., single-subject design, case series)
Level V	Case reports and expert opinions, which include narrative literature reviews and consensus statements

Note: Adapted from "Evidence-based medicine: What it is and what it isn't." D. L. Sackett, W. M. Rosenberg, J. A. Muir Gray, R. B. Haynes, & W. S. Richardson, 1996, *British Medical Journal*, 312, pp. 71-72. Copyright © 1996 by the British Medical Association. Adapted with permission.

Strength of Recommendations

A–There is strong evidence that occupational therapy practitioners should routinely provide the intervention to eligible clients. Good evidence was found that the intervention improves important outcomes and concludes that benefits substantially outweigh harm.

B–There is moderate evidence that occupational therapy practitioners should routinely provide the intervention to eligible clients. There is high certainty that the net benefit is moderate, or there is moderate certainty that the net benefit is moderate to substantial.

C–There is weak evidence that the intervention can improve outcomes. It is recommended that the intervention be provided selectively on the basis of professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.

I–There is insufficient evidence to determine whether or not occupational therapy practitioners should be routinely providing the intervention. Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits and harm cannot be determined.

D–It is recommended that occupational therapy practitioners do not provide the intervention to eligible clients. At least fair evidence was found that the intervention is ineffective or that harm outweighs benefits.

Note: Criteria for level of evidence and recommendations (A, B, C, I, D) are based on standard language from the U.S. Preventive Services Task Force (2012). Suggested recommendations are based on the available evidence and content experts' clinical expertise regarding the value of using it.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

- Rheumatoid arthritis
- Osteoarthritis

- Fibromyalgia
- Systemic lupus erythematosus

Guideline Category

Counseling

Management

Rehabilitation

Treatment

Clinical Specialty

Nursing

Physical Medicine and Rehabilitation

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Health Care Providers

Nurses

Occupational Therapists

Physical Therapists

Physician Assistants

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

Guideline Objective(s)

- To provide specific interventions and findings from the systematic reviews of interventions for people with arthritis and other rheumatic conditions
- To help guide decisions on areas for future research by highlighting areas in which promising interventions lack enough evidence of providing clear benefit or in which available interventions fail to meet specific needs of clients with arthritis and other rheumatic conditions
- To be useful to those involved in providing occupational therapy services to people with these conditions, including occupational therapy practitioners, educators, clients, families, caregivers, third-party payers, and policymakers

Target Population

Adults with arthritis and other rheumatic conditions, specifically rheumatoid arthritis, osteoarthritis, fibromyalgia, and systemic lupus erythematosus

Interventions and Practices Considered

1. Interventions that address rheumatoid arthritis
2. Interventions that address osteoarthritis
3. Interventions that address systemic lupus erythematosus
4. Interventions that address fibromyalgia

Major Outcomes Considered

Effectiveness of interventions as determined by:

Performance of activities of daily living and instrumental activities of daily living
Return to work
Participation in leisure and social activities
Pain and symptom management
Quality of life

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The following question framed the review: What is the evidence for the effectiveness of interventions within the scope of occupational therapy practice for adults with arthritis and other rheumatic conditions?

Method

Search terms for the review were developed by the research methodologist to the American Occupational Therapy Association (AOTA) Evidence-based Practice (EBP) Project and AOTA staff, in consultation with the review authors, and by the advisory group. The search terms were developed not only to capture pertinent articles but also to make sure that the terms relevant to the specific thesaurus of each database were included. Table E.1 in the original guideline document lists the search terms related to population (arthritis and other rheumatic conditions) and types of intervention included in the systematic review. A medical research librarian with experience in completing systematic review searches conducted the search and confirmed and improved the search strategies.

Databases and sites searched included MEDLINE, PsycINFO, CINAHL, Ergonomics Abstracts, and OTseeker. In addition, consolidated information sources, such as the Cochrane Database of Systematic Reviews, were included in the search. These databases are peer-reviewed summaries of journal articles and provide a system for clinicians and scientists to conduct systematic reviews of selected clinical questions and topics. Moreover, reference lists from articles included in the systematic review were examined for potential articles, and selected journals were hand searched to ensure that all appropriate articles were included.

Inclusion and exclusion criteria are critical to the systematic review process because they provide the structure for the quality, type, and years of publication of the literature that is incorporated into a review. The review of the question was limited to peer-reviewed scientific literature published in English. The

intervention approaches examined were within the scope of practice of occupational therapy. The literature included in the review was published between January 1995 and June 2014. The review excluded data from presentations, conference proceedings, non–peer-reviewed research literature, dissertations, and theses. Studies included in the review provide Level I, II, and III evidence.

A total of 9,661 citations and abstracts were included in the review. The research methodologist for the EBP Project completed the first step of eliminating references on the basis of citation and abstract. The systematic review was carried out as an academic partnership in which the three authors worked with graduate students as a team. The review team completed the next step of eliminating references on the basis of citations and abstracts. The full-text versions of potential articles were retrieved, and the review team determined final inclusion in the review on the basis of predetermined inclusion and exclusion criteria.

Number of Source Documents

A total of 156 articles were included in the final review: 141 Level I, 8 Level II, and 7 Level III studies.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Levels of Evidence for Occupational Therapy Outcomes Research

Levels of Evidence	Definition
Level I	Systematic reviews, meta-analyses, and randomized, controlled trials
Level II	Two groups, nonrandomized studies (e.g., cohort, case control)
Level III	One group, nonrandomized (e.g., before-after, pretest and posttest)
Level IV	Descriptive studies that include analysis of outcomes (e.g., single-subject design, case series)
Level V	Case reports and expert opinions, which include narrative literature reviews and consensus statements

Note: Adapted from "Evidence-based medicine: What it is and what it isn't." D. L. Sackett, W. M. Rosenberg, J. A. Muir Gray, R. B. Haynes, & W. S. Richardson, 1996, *British Medical Journal, 312*, pp. 71-72. Copyright © 1996 by the British Medical Association. Adapted with permission.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The team working on the focused question reviewed the articles according to their quality (scientific rigor and lack of bias) and level of evidence. Each article included in the review was then abstracted using an evidence table that provides a summary of the methods and findings of the article. American Occupational Therapy Association (AOTA) staff and the Evidence-based Practice (EBP) Project research methodologist reviewed the evidence table to ensure quality control. All studies are summarized in the

evidence tables in Appendix F in the original guideline document. In addition, articles of relevance from the systematic review of forearm, wrist, and hand (Roll & Hardison, 2017) were included in this Practice Guideline. The risk of bias of individual studies was assessed using the methods described by Higgins, Altman, and Sterne (2011). The method for assessing the risk of bias of systematic reviews was based on the measurement tool developed by Shea et al. (2007).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

A major focus of the American Occupational Therapy Association's (AOTA's) Evidence-based Practice (EBP) projects is an ongoing program of systematic review of multidisciplinary scientific literature, using focused questions and standardized procedures to identify occupational therapy–relevant evidence and discuss its implications for practice, education, and research. An evidence-based perspective is founded on the assumption that scientific evidence of the effectiveness of occupational therapy intervention can be judged to be more or less strong and valid according to a hierarchy of research designs, an assessment of the quality of the research, the significance of the findings, or a combination of the three.

AOTA uses standards of evidence modeled on those developed in evidence-based medicine. This model standardizes and ranks the value of scientific evidence for biomedical practice. In this system, the highest level of evidence, Level I, includes systematic reviews of the literature, meta-analyses, and randomized controlled trials (RCTs). In RCTs, participants are randomly allocated to either an intervention or a control group, and the outcomes of both groups are compared. Other levels of evidence include Level II studies, in which assignment to a treatment or a control group is not randomized; Level III studies, which do not have a control group; Level IV studies, which use a single-case experimental design, sometimes reported over several participants; and Level V studies, which are case reports and expert opinions that include narrative literature reviews and consensus statements.

The systematic review on arthritis and other rheumatic conditions was supported by AOTA as part of the EBP Project. AOTA is committed to supporting the role of occupational therapy in this important area of practice.

A search for arthritis and other rheumatic conditions was completed for articles published January 1995 through June 2014. This review was completed together with systematic reviews of musculoskeletal disorders that included interventions for people with osteoarthritis and rheumatoid arthritis specific to the forearm, wrist, and hand and the lower extremity. These reviews are crucial because occupational therapy practitioners need access to the results of the latest and best available literature to support interventions for people with arthritis and other rheumatic conditions within the scope of occupational therapy practice.

The research question for the systematic review on arthritis and other rheumatic conditions was reviewed by review authors, an advisory group of experts in the field, AOTA staff, and the methodology consultant to the AOTA EBP Project.

Rating Scheme for the Strength of the Recommendations

Strength of Recommendations

A–There is strong evidence that occupational therapy practitioners should routinely provide the intervention to eligible clients. Good evidence was found that the intervention improves important outcomes and concludes that benefits substantially outweigh harm.

B–There is moderate evidence that occupational therapy practitioners should routinely provide the

intervention to eligible clients. There is high certainty that the net benefit is moderate, or there is moderate certainty that the net benefit is moderate to substantial.

C–There is weak evidence that the intervention can improve outcomes. It is recommended that the intervention be provided selectively on the basis of professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.

I–There is insufficient evidence to determine whether or not occupational therapy practitioners should be routinely providing the intervention. Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits and harm cannot be determined.

D–It is recommended that occupational therapy practitioners do not provide the intervention to eligible clients. At least fair evidence was found that the intervention is ineffective or that harm outweighs benefits.

Note: Criteria for level of evidence and recommendations (A, B, C, I, D) are based on standard language from the U.S. Preventive Services Task Force (2016). Suggested recommendations are based on the available evidence and content experts' clinical expertise regarding the value of using such evidence.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

This Practice Guideline was reviewed by a group of content experts for people with arthritis and other rheumatic conditions that included practitioners, researchers, educators, patient and consumer representatives, and policy experts.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

A total of 156 articles were included in the final review: 142 Level I, 7 Level II, and 7 Level III studies.

Number of Articles Included for Each Topic

Review	Evidence Level					Total in Each Review
	I	II	III	IV	V	
Rheumatoid arthritis	51	0	0	0	0	51
Osteoarthritis	43	4	3	0	0	50
Fibromyalgia	42	0	0	0	0	42
Systemic lupus erythematosus	6	3	4	0	0	13
Total	142	7	7	0	0	156

[Note from NGC: The actual sentence in the guideline (A total of 156 articles were included in the final review: 141 Level I, 8 Level II, and 7 Level III studies.) does not agree with the totals provided in the table. We changed the sentence to match the totals provided in the table.]

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

This document may be used to assist:

Occupational therapists and occupational therapy assistants in providing evidence-based interventions to adults with rheumatoid arthritis (RA), osteoarthritis (OA), fibromyalgia (FM), and systemic lupus erythematosus (SLE)
Occupational therapists and occupational therapy assistants in communicating about occupational therapy services to external audiences
Other health care practitioners, case managers, clients, families and caregivers, and health care facility managers in determining whether referral for occupational therapy services is appropriate
Third-party payers in determining the medical necessity for occupational therapy
Legislators; third-party payers; federal, state, and local agencies; and administrators in understanding the professional education, training, and skills of occupational therapists and occupational therapy assistants
Health and social services planning teams in determining the need for occupational therapy services
Program developers; administrators; legislators; federal, state, and local agencies; and third-party payers in understanding the scope of occupational therapy services
Occupational therapy researchers in this practice area in determining outcome measures and defining current occupational therapy practice to compare the effectiveness of occupational therapy interventions
Policy, education, and health care benefit analysts in understanding the appropriateness of occupational therapy services for adults with RA, OA, FM, and SLE
Policymakers, legislators, and organizations in understanding the contribution occupational therapy can make in health promotion, program development, and health care reform to support adults with RA, OA, FM, and SLE
Occupational therapy educators in designing appropriate curricula that incorporate the role of occupational therapy with adults with RA, OA, FM, and SLE

Potential Harms

The studies that met the inclusion criteria for the systematic reviews did not explicitly report potential adverse events associated with the interventions evaluated in these studies. If harms were noted, they would have been explicitly reported in the summary of key findings and would have been taken into account in the determination of the recommendations. Before implementing any new intervention with a client, it is always prudent for occupational therapy practitioners to be aware of the potential benefits and harms of the intervention.

Qualifying Statements

Qualifying Statements

- This guideline does not discuss all possible methods of care, and although it does recommend some

specific methods of care, the occupational therapist makes the ultimate judgment in concert with the client's preferences and goals and with regard to the appropriateness of a given intervention. This decision is based on a specific person's or group's circumstances and needs and the evidence available to support the intervention.
- This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold or distributed with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional service. If legal advice or other expert assistance is required, the services of a competent professional person should be sought.
- It is the objective of the American Occupational Therapy Association to be a forum for free expression and interchange of ideas. The opinions expressed by the contributors to this work are their own and not necessarily those of the American Occupational Therapy Association.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Chart Documentation/Checklists/Forms

Resources

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Poole JL, Siegel P, Tencza MJ. Occupational therapy practice guidelines for adults with arthritis and other rheumatic conditions. Bethesda (MD): American Occupational Therapy Association, Inc. (AOTA); 2017. 46 p. [280 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2017

Guideline Developer(s)

American Occupational Therapy Association, Inc. - Professional Association

Source(s) of Funding

This guideline was commissioned, edited, and endorsed by the American Occupational Therapy Association (AOTA) without external funding being sought or obtained. The report was entirely supported financially by AOTA and was developed without any involvement of industry.

Guideline Committee

Not stated

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Financial Disclosures/Conflicts of Interest

The authors of this Practice Guideline have signed a Conflict of Interest statement indicating that they have no conflicts that would bear on this work.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Electronic copies: Not available at this time.

Print copies: Available for purchase from The American Occupational Therapy Association (AOTA), Inc., 4720 Montgomery Lane, Bethesda, MD 20814, Phone: 1-877-404-AOTA (2682), TDD: 800-377-8555, Fax: 301-652-7711. This guideline can also be ordered online from the AOTA Web site .

Availability of Companion Documents

The following is available:

- Occupational therapy practice framework: domain and process. 3rd ed. Bethesda (MD): American Occupational Therapy Association (AOTA); 2014. Available to order from the American Occupational Therapy Association (AOTA) Web site .

In addition, the following are available in the original guideline document:

- Occupational therapy process for adults with arthritis and other rheumatic conditions
- Case studies for occupational therapy practice with adults with arthritis and other rheumatic conditions
- Selected International Classification of Diseases (ICD)–10 codes
- Selected Current Procedural Terminology (CPT) ® codes for occupational therapy evaluations and interventions for adults with arthritis and other rheumatic conditions

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on May 6, 2018. The information was verified by the guideline developer on June 5, 2018.

This NEATS assessment was completed by ECRI Institute on April 10, 2018. The information was verified by the guideline developer on June 5, 2018.

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